AMENDMENTS TO THE CLAIMS

1-5. (Cancelled)

6. (Previously Presented) A system for locating a marker associated with a patient comprising:

an excitation source having an adjustable frequency for emitting an exciting waveform during an excitation interval, said exciting waveform causing said marker to resonate;

a sensing coil that senses a magnetic flux from said resonating marker during a observation interval and outputs a receiver input; and

a receiver for analyzing said receiver input in a coherent manner wherein said excitation interval and/or observation interval can be automatically adjusted in said receiver to match a resonant frequency of said marker.

7. (Original) The system of Claim 6 wherein said excitation source and said sensing coil repeats the emission of said exciting waveform and outputting of said receiver input for a plurality of iterations, said receiver operative to average a plurality of receiver inputs over a plurality of said observation intervals from said plurality of iterations prior to coherent analysis.

8. (Original) The system of Claim 6 wherein said exciting waveform is a triangular waveform.

9. (Previously Presented) A system for locating a marker associated with a patient comprising:

an excitation source for emitting an exciting waveform during an excitation interval, said exciting waveform causing said marker to resonate;

a sensing array that includes a plurality of sensing coils that each sense a magnetic flux from said resonating marker during a observation interval and outputs a plurality of receiver inputs; and

a receiver for analyzing said plurality of receiver inputs in a coherent manner wherein a length of said excitation interval and/or observation interval is programmable in the receiver to match a resonant frequency of the marker.

10. (Original) The system of Claim 9 wherein said excitation source and said sensing coil repeat the emission of said exciting waveform and outputting of said plurality of receiver inputs for a plurality of iterations, said receiver operative to average multiple sets of said plurality of receiver inputs over a plurality of said observation intervals from said plurality of iterations prior to coherent analysis.

11. (Original) The system of Claim 9 wherein said exciting waveform is a triangular waveform.

12. (Previously Presented) A system for locating a marker associated with a patient comprising:

an excitation source for repetitively emitting an exciting waveform during an excitation interval, said exciting waveform causing said marker to resonate;

a sensing array including a plurality of sensing coils, said sensing coils outputting a plurality of inputs during a observation interval; and

a receiver for analyzing said plurality of inputs in a coherent manner wherein said excitation interval and/or said observation interval is adjustably programmable to match a resonant frequency of said marker.

13. (Original) The system of Claim 12 wherein said receiver averages multiple sets of said plurality of inputs over a plurality of said observation intervals prior to coherent analysis.

14-15. (Cancelled)

16. (Previously Presented) A system for locating a marker associated with a patient comprising:

an excitation source having a tunable frequency for emitting an exciting waveform at a first frequency, said exciting waveform causing said marker to resonate at a second frequency;

a sensing array including a plurality of sensing coils, said sensing coils outputting a plurality of inputs indicative of a magnetic flux from said resonating marker; and

a receiver for analyzing said plurality of inputs from a marker in a coherent manner wherein the receiver provides an identified resonant frequency of the marker to the excitation source.